

A. Garmasa, I. Yermak,
Belarusian State Technological University, Minsk, Belarus

THEY HAVE BUILT A NUCLEAR POWER PLANT, BUT DID NOT CARE ABOUT THE ECONOMY

Economy of Belarus, while providing itself with electricity, could not ignore nuclear energy. Having built a nuclear power plant, the government, in addition to domestic consumption, planned to export a significant part of the electricity abroad. However, neighboring countries refused to buy it. The question arose: what to do with excess electricity?

Heat and electrical energy is obtained by burning coal, oil and natural gas. The Republic of Belarus, which does not possess these natural resources, decided to resort to the use of nuclear energy.

But there is another alternative, so-called «green energy», which is obtained in a more environmentally friendly way due to the energy of sunlight and wind. But this is for very rich countries. Currently, Germany, Great Britain, China, Denmark, Japan, Spain, Switzerland, Belgium and a number of other countries are pursuing long-term policies to phase out nuclear energy and switch to the use of clean and renewable energy sources [1].

To date, the installed capacity of power plants using renewable energy sources has exceeded the installed capacity of nuclear power plants in the world. No other industry has such a growth rate.

So, what about Belarus?

In Belarus, despite the protests of environmentalists, a nuclear power plant with two reactors with a total capacity of 2,400 MW has been built according to a Russian project, and on November 3, 2021, the power unit was included in the country's energy system. The first power unit reached a capacity of 400 MW, which is 40 % of its capacity. The power unit's capacity will be gradually increased to design – up to 1190 MW. The second block is planned to be commissioned in May 2022. The total capacity of the two power units will be 2.4 thousand MW. The Belarusian nuclear power plant will be able to produce 18 billion kWh of electricity per year.

Morally, in a republic that has suffered so much from the Chernobyl disaster, suddenly building a nuclear power plant seems unacceptable for environmental and economic reasons.

The Belarusian authorities estimate the cost of the Belarusian nuclear power plant construction at 7 billion USD, but the real cost of the project can be calculated only after the construction is completed. Many analysts estimate the construction at 13–14 billion USD. For interstate construction, a 25 year Russian loan of 10 billion USD has been structured. Russia finances up to 90 % of the construction cost at 3.3 % per year, the remaining 10 % should be added by the Belarusian side.

Shortly before the presidential elections in Belarus, Russia reduced the cost of the loan by about 1.5 times and shifted the loan repayment period by two years. Now the Belarusian side is obliged to make payments starting from 2023 [2].

Even before the start of construction, Belarusian ecologists and foreign representatives expressed doubts about the choice of the site for the construction of the nuclear power plant. The town of Ostrovets, where the nuclear power plant was built, a recreational resort area is located next to the most beautiful resting place of Lake Naroch. The capital of Lithuania, Vilnius, is 50 kilometers away, not far from the EU countries – Poland, Latvia, Estonia, which, fearing such a neighborhood, refused to buy Belarusian electricity in solidarity.

But does Belarus really need a nuclear power plant? Experts say that the country has a surplus of electricity even without nuclear power plants: in 2018 they produced about 39 billion kWh, of which 38 billion kWh were consumed, and 1 billion kWh was exported. The entire energy system of Belarus of 10 thousand MW can generate about 66 billion kWh, but we do not need that much, taking into account the export. And with the full commissioning of the Ostrovets nuclear power plant, another 2.4 thousand MW will be added [3].

The question arises is what to do with so much electricity? And will the Belarusian economy be able to bear the exorbitant burden of paying Russia interest on a loan of about \$ 0.5 billion a year, taking into account the payment of 1.5 billion USD annually on other loans?

According to the Minister of Energy of Belarus, there will be no oversupply of electricity. The task is to move to the development of electric transport. A program is being developed to increase the consumption of electricity by the population. There are three directions in the implementation of this plan:

- 1) construction of new electrified housing, multi-apartment and individual residential buildings, where electricity will be used for heating and hot water supply;
- 2) transfer of multi-apartment housing stock to the use of electrical energy;
- 3) transfer of existing individual housing to the use of electricity for heating and hot water supply.

This work is considered as an alternative to gas use. The calculations are based on the fact that currently 98 percent of electricity in Belarus is generated at thermal power plants using natural gas. But along the way, there are also exorbitant costs.

The expectation that the cost of purchasing Russian gas will decrease due to the shutdown of gas-based thermal power plants seems unlikely. The government has already announced that electricity prices will go up, despite the fact it seemed economically feasible at first.

Time will show if the Belarusian nuclear power plant will pay itself off.

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